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(FILE 'HOME' ENTERED AT 14:37:30 ON 23 SEP 2003)
FILE 'CA' ENTERED AT 14:37:51 ON 23 SEP 2003
L1 4 S LACEY D?/AU AND DUDLER V?/AU
L2 484 S (MICROTITER OR MICROPLATE OR MICROTITRE)(4A)(READER OR IMAGER OR IMAGING OR DETECT?(3A)(ARRAY OR CCD OR CHARGED COUPL?))
L3 366 S L2 NOT PY>2000
L4 3 S L3 AND (OPTIC?(1A)(FIBER OR FIBRE)OR FIBEROPTIC)
L5 3 S L2 AND(HEATER OR TEMPERATURE(3A)CONTROL?)
L6 15 S L3 AND APPARATUS
L7 23 S L1,L4-6

=> d bib,ab 1-23 l7

L7 ANSWER 1 OF 23 CA COPYRIGHT 2003 ACS on STN
AN 133:190003 CA
TI A CCD-based integrated platform for accelerated high-throughput screening
AU Boldt-Houle, Deborah; Yan, Susan; Olesen, Corinne; D'Eon, Brian; Lee, Jennie; Liu, Betty; Bodziuch, Urszula; Chiulli, Anthony; Atwood, John; Gambini, Michael; Voyta, John; Bronstein, Irena
CS Tropix, Inc., Bedford, MA, 01730-2358, USA
SO American Laboratory (Shelton, Connecticut) (2000), 32(3), 60, 62, 64, 66, 68, 70
AB To eliminate screening bottle-necks, high-throughput screening (HTS) instruments and assays that are robust, cost effective, and amenable to automation are essential. The NorthStar HTS workstation (Tropix, Inc.) is a fully integrated platform developed to expedite lead discovery. Features include a cooled charge-coupled device (CCD) camera optimized to image highly sensitive luminescence assays, integrated liq. and plate handlers, **microplate imaging** formats, data anal. and a filter wheel for multiwavelength detection capability. The capacity of the system to perform greater than 500,000 assays per day increases overall screening productivity by extending the life of chem. libraries, decreasing reagent costs, and conserving the use of scarce proteins, cells, and reagents.

L7 ANSWER 4 OF 23 CA COPYRIGHT 2003 ACS on STN
AN 131:211117 CA
TI 96-Channel microplate surface plasmon resonance **fiber optic** sensor system
AU Jorgenson, Ralph C.; Siegfried, Mark C.
CS EBI Sensors, Inc., Seattle, WA, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3603(Systems and Technologies for Clinical Diagnostics and Drug Discovery II), 313-322
AB A surface plasmon resonance **fiber optic** system is presented for the simultaneous anal. of ninety-six micro-well plates for purposes of high throughput biochem. screening anal. The sensing element is compared of ninety-six discrete **fiber optic** sensor housed in a containment plate. A white light source is used to introduce light to the sensor via a multiplexed **fiber optic** bundle. The transmitted spectral intensity distribution of each sensor is detected via a multiplexed **fiber optic** bundle. The transmitted spectral intensity distribution of each sensor is detected simultaneously using a lens-based holog. imaging spectrograph and a 2D CCD detector. Exptl. results confirm the feasibility of the application of this label free and real-time transduction mechanism of surface plasmon resonance towards high throughput biochem. anal.

L7 ANSWER 5 OF 23 CA COPYRIGHT 2003 ACS on STN

AN 131:194964 CA
TI Sensitive **fiber optics**-based system for real-time detection of PCR-amplified DNA using molecular beacons
AU Reid, Taylor A.; Cayouette, Michelle; Brown, Larry; Mousavi, Ali Reza Slaney, John; Moores, Jane
CS Stratagene, La Jolla, CA, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3602(Advances in Fluorescence Sensing Technology IV), 415-421
AB Mol. beacon hairpin shaped fluorescent oligonucleotide probes are powerful tools for quantifying specific nucleic acid sequences. Stratagene is developing a sensitive system, using these probes, for detecting and quantifying initial template copy no. of nucleic acid sequences in real time during PCR amplification. The system allows parallel multiple fluorophore detection for many applications including allele discrimination and quant. gene expression anal. This instrument, combined with Stratagene's Sentinel Mol. Beacon kits, provides an effective system for mol. biol. research. We report here the design and utility of an instrument that combines the capabilities of a **microplate** fluorescence **reader** with a PCR thermocycler into a low cost real time detection system. The instrument integrates a multiple fluorophore parallel **fiber optic** excitation and emission detection system, a precision X-Y translation stage, and a high performance thermoelec. temp. cycler with a computer controlled data collection and anal. system. The system uses std. PCR tubes, tube strips, and 96 well plates as the sample format. The result is a low cost, reliable, and easy to use system with premium performance for nucleic acid quantification in real time.

L7 ANSWER 7 OF 23 CA COPYRIGHT 2003 ACS on STN
AN 128:99404 CA
TI The Lumi-imager, a sensitive and versatile system for imaging, analysis and quantitation of chemiluminescence on blots and in microtiterplates
AU Gutekunst, M.; Jahreis, M.; Rein, R.; Hoeltke, H. J.
CS Boehringer Mannheim GmbH, Tutzing, Germany
SO Bioluminescence and Chemiluminescence: Molecular Reporting with Photons, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 9th, Woods Hole, Mass., Oct. 4-8, 1996 (1997), Meeting Date 1996, 543-544. Editor(s): Hastings, J. W.; Kricka, L. J.; Stanley, P. E. Publisher: Wiley, Chichester, UK.
AB An instrument developed for imaging of chemiluminescent signals on blots and in microtiterplates is described.

L7 ANSWER 10 OF 23 CA COPYRIGHT 2003 ACS on STN
AN 126:141560 CA
TI FLIPR: A new instrument for accurate, high throughput optical screening
AU Schroeder, Kirk S.; Neagle, Brad D.
CS Journal of Biomolecular Screening, The Society for Biomolecular Screening, Inc., Ann Arbor, MI, USA
SO Journal of Biomolecular Screening (1996), 1(2), 75-80
AB Modern optical screening assays demand high data throughput along with uncompromised data fidelity. FLIPR (Fluorescent Imaging Plate Reader) was developed to perform quant. optical screening for cell-based kinetic assays. FLIPR incorporates an integrated design, including low-level optical detection, precise **temp. control**, and precise fluid handling, all in one package. The unique aspect of FLIPR is that all 96 wells of a std. microplate are stimulated and optically measured simultaneously. Kinetic updates on all 96 wells can be obtained in under 1 s, allowing for transient signals to be quantified. Demonstrated applications include measurements of intracellular calcium, intracellular pH, and membrane potential.

L7 ANSWER 15 OF 23 CA COPYRIGHT 2003 ACS on STN
AN 124:233556 CA
TI Chemiluminescence from polypropylene. Part 1. Imaging thermal oxidation of unstabilized film
AU **Lacey, D. J.; Dudler, V.**
CS Materials Research, Ciba-Geigy Ltd., Marley, 1723, Switz.
SO Polymer Degradation and Stability (1996), 51(2), 101-8
AB A chemiluminescence (CL) imaging app. based on a cryogenically cooled, slow scan CCD [charge coupled device] camera was developed to study the thermal oxidn. of isotactic polypropylene (PP). The oxidn. of PP is heterogeneous and predominates in less cryst. regions at the boundaries of the spherulites, and is attributed to higher concn. of O in the amorphous region. Exptl. procedures and tech. limitations are presented, which show that CL observation is complicated by adverse effects, such as light guiding in film or crack formation in thicker material. These effects can result in a non-uniform CL signal. CL microscopy images of well crystd. PP are given. Results reveal that the method has the sensitivity to examine polymer oxidn. at a microscopic level and that the location of oxidn. correlates well with the PP morphol.

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L7 ANSWER 22 OF 23 CA COPYRIGHT 2003 ACS on STN
AN 103:67631 CA
TI Enhanced luminescence determination of horseradish peroxidase conjugates. Application of benzothiazole deriatives as enhancers in luminescence assays on microtiter plates
AU Thorpe, G. H. G.; Moseley, S. B.; Kricka, L. J.; Stott, R. A.; Whitehead, T. P.
CS Dep. Clin. Chem., Queen Elizabeth Med. Cent., Birmingham, B15 2TH, UK
SO Analytica Chimica Acta (1985), 170(1), 101-7
AB The benzothiazole derivs., 2-cyano-6-hydroxybenzothiazole, 6-hydroxybenzothiazole and dehydroluciferin, enhance light emission from the horseradish peroxidase-catalyzed oxidn. of cyclic diacylhydrazides such as luminol. The relatively intense and prolonged light emission from reactions enhanced by benzothiazole derivs. is easily detected and is utilized in a rapid assay for specific antibody against cytomegalovirus done on black polystyrene microtiter plates. Rapid measurements are possible when a prototype manually-operated **microtiter** plate **reader** is used. Light emission from individual wells was quantified by an end-window photomultiplier tube positioned either just above the microtiter plate surface, or some distance away, the light being collected through a **fiber optic** light guide. The assay was also done on transparent poly(vinyl chloride) microtiter plates with simultaneous measurement of light emission from several wells; this was achieved with simple instrumentation and a 20,000-ASA Polaroid instant photog. film.

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